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Conference Abstract

Participative Decision Making and the Sharing of Benefits: Laws, ethics, and data protection for building extended global communities

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Abstract

Transdisciplinary and cross-cultural cooperation and collaboration are needed to build extended, densely interconnected information resources. These are the prerequisites for the successful implementation and execution of, for example, an ambitious monitoring framework accompanying the post-2020 Global Biodiversity Framework (GBF) of the Convention on Biological Diversity (CBD; SCBD 2021).

Data infrastructures that meet the requirements and preferences of concerned communities can focus and attract community involvement, thereby promoting participatory decision making and the sharing of benefits. Community acceptance, in turn, drives the development of the data resources and data use. Earlier this year, the alliance for biodiversity knowledge (2021a) conducted forum-based consultations seeking community

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input on designing the next generation of digital specimen representations and consequently enhanced infrastructures.

The multitudes of connections that arise from extending the digital specimen representations through linkages in all "directions" will form a powerful network of information for research and application. Yet, with the power of an extended, accessible data network comes the responsibility to protect sensitive information (e.g., the locations of threatened populations, culturally context-sensitive traditional knowledge, or businesses' fundamental data and infrastructure assets). In addition, existing legislation regulates access and the fair and equitable sharing of benefits. Current negotiations on 'Digital Sequence Information' under the CBD suggest such obligations might increase and become more complex in the context of extensible information networks. For example, in the case of data and resources funded by taxpayers in the EU, such access should follow the general principle of being "as open as possible; as closed as is legally necessary" (cp. EC 2016). At the same time, the international regulations of the CBD Nagoya Protocol (SCBD 2011) need to be taken into account.

Summarizing main outcomes from the consultation discussions in the forum thread "Meeting legal/regulatory, ethical and sensitive data obligations" (alliance for biodiversity knowledge 2021b), we propose a framework of ten guidelines and functionalities to achieve community building and drive application:

1. Substantially contribute to the conservation and protection of biodiversity (cp. EC 2020).
2. Use language that is CBD conformant.
3. Show the importance of the digital and extensible specimen infrastructure for the continuing design and implementation of the post-2020 GBF, as well as the mobilisation and aggregation of data for its monitoring elements and indicators.
4. Strive to openly publish as much data and metadata as possible online.
5. Establish a powerful and well-thought-out layer of user and data access management, ensuring security of 'sensitive data'.
6. Encrypt data and metadata where necessary at the level of an individual specimen or digital object; provide access via digital cryptographic keys.
7. Link obligations, rights and cultural information regarding use to the digital key (e.g. CARE principles (Carroll et al. 2020), Local Context-labels (Local Contexts 2021), licenses, permits, use and loan agreements, etc.).
8. Implement a transactional system that records every transaction.
9. Amplify workforce capacity across the digital realm, its work areas and workflows.
10. Do no harm (EC 2020): Reduce the social and ecological footprint of the implementation, aiming for a long-term sustainable infrastructure across its life-cycle, including development, implementation and management stages.

Balancing the needs for open access, as well as protection, accountability and sustainability, the framework is designed to function as a robust interface between the (research) infrastructure implementing the extensible network of digital specimen representations, and the myriad of applications and operations in the real world.

With the legal, ethical and data protection layers of the framework in place, the infrastructure will provide legal clarity and security for data providers and users, specifically in the context of access and benefit sharing under the CBD and its Nagoya Protocol.

Forming layers of protection, the characteristics and functionalities of the framework are envisioned to be flexible and finely-grained, adjustable to fulfill the needs and preferences of a wide range of stakeholders and communities, while remaining focused on the protection and rights of the natural world. Respecting different value systems and national policies, the framework is expected to allow a divergence of views to coexist and balance differing interests. Thus, the infrastructure of the digital extensible specimen network is fair and equitable to many providers and users. This foundation has the capacity and potential to bring together the diverse global communities using, managing and protecting biodiversity.

Keywords

extended specimen concept, biodiversity information network, data infrastructure, access and benefit sharing, Convention on Biological Diversity, CARE, Local Contexts-labels, licenses, permits, use and loan agreements, sensitive data, EU Taxonomy-regulation, social and ecological footprints

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